

Appl. No. : 10/008,780
Filed : November 13, 2001

REMARKS

In the Office Action, the Examiner indicated that the previous rejections under 35 U.S.C. 112 have been overcome. However, the Examiner rejected Claims 1-3, 6-11, and 14 under the newly cited reference U.S. 6,020,597 to Kwak. The Applicant has carefully reviewed the Kwak reference and notes that Kwak '597 teaches a repairable chip module or housing having a static plate 12 with a plurality of openings for receiving chips 11 which is removably attached to an external terminal unit 14 having a plurality of bumps 21 formed to be in contact with a plurality of pads of the chips 11 as well as a corresponding plurality of solder balls 22 formed on an upper surface. The external terminal unit 14 is attached to the static plate 12 with a clamp spring 15 such that removal of the clamp spring 15 allows the two major pieces of the chip module to be separated for removal and replacement of one or more of the chips 11.

Kwak clearly teaches the desirability of removably attaching the static plate 12 to the external terminal unit 14 for ready access to chips 11 which have been or are to be positioned therein, such as via the spring clamp 15. This provides facile replacement of faulty chips 11, for example. Thus, the Applicant believes that Kwak does not anticipate and even teaches away from the aspect of the Applicant's invention that "the housing floor is permanently attached to the housing lid" (Claim 1 as currently amended).

The Applicant further notes that Kwak teaches that the elastic members 50 are simply installed in each of the insertion holes 12a and held in place under compression with no permanent connection to either the chip or the housing elements and that the housing elements also lack a permanent interconnection. The previously cited Horvath reference teaches both a permanent interconnection between the elements of the chip housing and a permanent connection between the resilient disk element 24 and both the devices 12 and the overlying cap 16 via the low melting point coating 32. Thus, while no such rejection has been made by the Examiner and the Applicant finds no suggestion or motivation in Kwak to combine the teachings of Horvath, the Applicant believes that the claimed aspects of "a housing lid permanently attached to the housing floor so as to define the housing and the housing lid comprising at least one spring element fixedly attached to a lower surface of the housing lid such that, when at least one integrated circuit is positioned within the housing, the at least one integrated circuit is pressed resiliently against the upper surface of the housing floor with no permanent connection between the contact surfaces of the housing and the at least one integrated circuit. (Claim 1 as currently

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amended) distinguish the Applicant's invention over any combined teaching of both Kwak and Horvath. The Applicant notes that the further limitations of Claim 1 correspond to the matter previously claimed with Claims 2 and 3, hereby cancelled. The Applicant further notes that pending Claims 6-11, 14, 17, and 18 depend from Claim 1 and are believed novel and patentable due to their dependence on Claim 1 as currently amended.

The Examiner also continues to reject Claims 21, 23, 24, 26, and 27 under 35 U.S.C. 102 as being anticipated by Horvath '025. The Examiner holds in the Office Action that while the devices 12 are materially connected to the substrate 10 by the solder connections 22, the arrangement of the resilient disk element 24 would also provide a resilient force contributing to a compression contact between the chips 12 and substrate 10. The Applicant also notes that the Examiner indicates on page 7 of the Office Action that currently pending claim 21 "does not state that the connection between the chip contacts and the inner contacts is solely provided by the compression contact". The Applicant hereby amends the base Claim 21 to indicate "a housing lid permanently attachable to the housing floor" and that "attachment of the housing lid to the housing floor induces an elastic pressure on the chip so as to create solely a compression contact between the chip contacts and the inner contacts". (Claim 21 as currently amended) As discussed above and as indicated by the Examiner, the Applicant believes that the matter claimed with Claim 21 as currently amended is novel over the Horvath reference. The Applicant notes that pending Claims 23, 24, and 26-28 depend from Claim 21 and are believed novel and patentable due to their dependence on Claim 21 as currently amended.

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SUMMARY

Thus, the Applicant believes that the subject application as amended by this paper presents claimed subject matter novel over the teachings of Kwak and Horvath. The Examiner indicated that the previous rejections under 35 U.S.C. 112 have been overcome. Thus, the Applicant believes the application is in a condition ready for allowance and respectfully request prompt issuance of a Notice of Allowability. However, should there remain any further impediments to the allowance of this application that might be resolved by a telephone conference, the Examiner is respectfully requested to contact the Applicant's undersigned representative at the indicated telephone number.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 3/10/04

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